

中国微翅蚱属的分类研究

(直翅目:蚱总科:蚱科)

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摘要: 记述分布于我国的微翅蚱属 11 种, 其中有 2 新种: 秦岭微翅蚱 *Alulatettix qinlingensis* sp. nov. 和断隆微翅蚱 *Alulatettix interrupta* sp. nov. 附有分种检索表和种类分布情况。模式标本保存在陕西师范大学动物研究所标本室。

关键词: 直翅目; 蚱总科; 蚱科; 微翅蚱属; 新种; 中国

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A taxonomic study of the genus *Alulatettix* Liang (Orthoptera: Tetrigoidea: Tetrigidae) from China

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Abstract: The genus *Alulatettix* Liang from China was reviewed, with 11 species recorded, including two new species: *Alulatettix qinlingensis* sp. nov. and *Alulatettix interrupta* sp. nov. Key to species of *Alulatettix* from China is provided. Type specimens are kept in the Institute of Zoology, Shaanxi Normal University.

Key words: Orthoptera; Tetrigoidea; Tetrigidae; *Alulatettix*; new species; China

微翅蚱属 *Alulatettix* 为梁铭球 1993 年建立(梁铭球, 1993)。微翅蚱属已知 12 种, 主要分布于我国湖北、湖南、安徽、云南、广西、河南、陕西等省区; 在国外日本也有分布。现将分布于我国的 11 种进行记载, 包括 2 新种。模式标本保存在陕西师范大学动物研究所标本室。

微翅蚱属 *Alulatettix* Liang, 1993

Alulatettix Liang, 1993, *Acta Zootaxonomica Sinica*, 18(1): 73; Jiang & Zheng, 1998, *Grasshoppers and Locusts from Guangxi*. 342;

Liang & Zheng, 1998, *Fauna Sinica, Insecta* vol. 12, Orth. Tetrigoidea. 276.

模式种: *Alulatettix yunnanensis* Liang, 1993.

体小型, 具小颗粒; 头顶在复眼前缘突出, 具中隆线, 其宽度为一眼宽的 2 倍, 颜面倾斜, 颜面隆起在侧单眼前略凹或不凹, 在触角之间稍隆起, 颜面隆起纵沟狭。复眼球形; 侧单眼位于复眼前缘中部。触角丝状, 生于复眼下缘内侧。前胸背板明显屋脊形, 中、侧隆线和肩角均明显; 前胸背板侧片后缘具二凹陷。前、后翅很小, 退化。前、中足股节下缘平直或略波状。后足附节第 1 节长于第 3 节。

中国微翅蚱属 *Alulatettix* 分种检索表

1(8) 前胸背板前缘平直

2(7) 前胸背板背面平滑, 中隆线完整, 肩部之间不具一对短纵隆线

3(4) 侧面观前胸背板上缘中部凹陷, 两端弧形突出, 前、中足股节下缘均波状 武当山微翅蚱 *A. wudangshanensis* Wang et Zheng

4(3) 侧面观前胸背板上缘前段呈弓形, 后段平直, 前足股节下缘平直, 中足股节下缘波状

5(6) 头顶宽为一眼宽的 2 倍; 后翅到达第 1 腹节后缘; 后足附节第 1 节长为第 3 节的 2 倍

..... 八面山微翅蚱 *A. bamiashanensis* Fu et Zheng

6(5) 头顶宽为一眼宽的 1.5 倍; 后翅到达第 3 腹节后缘; 后足附节第 1 节长为第 3 节的 1.5 倍 ... 秦岭微翅蚱 *A. qinlingensis* sp. nov.

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- 72) 前胸背板背面密具大小不等瘤突, 中隆线断裂, 肩部之间具一对短纵隆线 断隆微翅蚱 *A. interrupta* sp. nov.
- 81) 前胸背板前缘锐角形或钝角形
- 912) 前胸背板前缘锐角形
- 1011) 头顶宽为一眼宽的 1.5 倍, 前缘平直, 前胸背板后突顶端宽圆形; 中足股节宽为前翅能见部分宽的 1.6 倍; 后足跗节第 1 节长为第 3 节的 1.3 倍 广西微翅蚱 *A. guangxiensis* Zheng et Zhou
- 1110) 头顶宽为一眼宽的 2 倍, 前缘圆形, 前胸背板后突顶端狭圆形; 中足股节宽为前翅能见部分宽的 3 倍; 后足跗节第 1 节长为第 3 节的 2 倍 安徽微翅蚱 *A. anhuiensis* Zheng
- 129) 前胸背板前缘钝角形
- 1316) 前胸背板后突顶端圆形
- 1415) 头顶前缘适度圆形, 前胸背板侧面观上缘稍弧形, 后突顶端到达肛上板中部 云南微翅蚱 *A. yunnanensis* Liang
- 1514) 头顶前缘平直, 前胸背板侧面观上缘明显球形, 后突顶端到达腹部顶端 球背微翅蚱 *A. bulbosus* Zheng et Zhong
- 1613) 前胸背板后突顶端具凹陷
- 1720) 侧面观头顶与颜面隆起形成尖角形, 颜面隆起在单眼前略凹陷
- 1819) 侧面观背板上缘在前足之上呈弓形而其后平直; 中足股节下缘平直; 后翅到达第 2 腹节背板后缘; 雌性下生殖板后缘具一角状突起 郑氏微翅蚱 *A. zhengi* Niu
- 1918) 侧面观背板上缘呈弓形隆起; 中足股节下缘波状; 后翅到达第 1 腹节背板后缘; 雌性下生殖板后缘近平截 五峰山微翅蚱 *A. wufengensis* Zhong et Zheng
- 2017) 侧面观头顶与颜面隆起形成直角形, 颜面隆起在单眼前不凹陷, 平直; 前胸背板上缘弓形隆起; 中足股节下缘波状; 后翅到达第 1 腹节背板后缘; 雌性下生殖板后缘具一细长三角形突起 楚雄微翅蚱 *A. chuxiongensis* Zheng

Key to species of *Alulatettix* Liang from China

- 18) Anterior margin of pronotum straight.
- 27) Dorsum of pronotum smooth, median carina of pronotum complete, without abbreviated carinae between shoulders.
- 44) In profile, anterior part of upper margin of pronotum arched, middle part concave, posterior part arched, lower margins of fore and middle femora distinctly wave-like *A. wudangshanensis* Wang et Zheng
- 43) In profile, anterior half of upper margin of pronotum arched, posterior half flat, lower margins of fore straight, lower margins of middle femora wave-like.
- 56) The width of vertex about two times that of one eye; hind wing reaching the posterior margin of the first segment of abdomen; first article of the posterior tarsi about two times as long as the third *A. bamianshanensis* Fu et Zheng
- 55) Width of vertex about 1.5 times that of one eye; hind wing reaching the posterior margin of the third segment of abdomen; first article of the posterior tarsi about 1.5 times as long as the third *A. qinlingensis* sp. nov.
- 72) With numerous large and fine tubercles on the dorsum of pronotum, median carina of pronotum interrupted; with a pair of abbreviated carinae between shoulders *A. interrupta* sp. nov.
- 81) Anterior margin of pronotum protruding acute-angularly or obtuse-angularly.
- 912) Anterior margin of pronotum protruding acute-angularly.
- 1011) Width of vertex about 1.5 times that of one eye, anterior margin of vertex straight; apex of hind pronotal process wide round; width of midfemur 1.6 times that of elytra; first article of the posterior tarsi about 1.3 times as long as the third *A. guangxiensis* Zheng et Zhou
- 1110) Width of vertex about 2 times that of one eye, anterior margin of vertex round; apex of hind pronotal process narrow round; width of midfemur 3 times that of elytra; first article of the posterior tarsi about 2 times as long as the third *A. anhuiensis* Zheng
- 129) Anterior margin of pronotum protruding obtuse-angularly.
- 1316) Apex of hind pronotal process round.
- 1415) Anterior margin of vertex round; in profile, upper margin of pronotum slightly arched; apex of hind pronotal process reaching the middle of supraanal plate *A. yunnanensis* Liang
- 1514) Anterior margin of vertex straight; in profile, upper margin of pronotum distinctly, spherical; apex of hind pronotal process reaching the apex of abdomen *A. bulbosus* Zheng et Zhong
- 1613) Apex of hind pronotal process triangulately concave.
- 1720) In profile, frontal costa together with vertex forming an acute angle, frontal ridge slightly concave between lateral ocelli.
- 1819) In profile, upper margin of pronotum arcuate above the fore leg, more straight at the middle and posterior part; lower margins of middle femora straight; hind wing reaching the posterior margin of the second segment of abdomen; in female, with a triangular projecting in the middle of hind margin of subgenital plate *A. zhengi* Niu
- 1918) In profile, upper margin of pronotum arcuate; lower margins of middle femora wave-like; hind wing reaching the posterior margin of the first segment of abdomen; in female, hind margin of subgenital plate almost straight *A. wufengensis* Zhong et Zheng
- 2017) In profile, frontal costa together with vertex forming a right angle, frontal ridge not concave between lateral ocelli, straight; upper margin of pronotum arcuate; lower margins of middle femora wave-like; hind wing reaching the posterior margin of the first segment of abdomen; in female, with a slender triangular projecting in the middle of hind margin of subgenital plate *A. chuxiongensis* Zheng

1. 武当山微翅蚱 *Alulatettix wudangshanensis* Wang et Zheng, 1997

Alulatettix wudangshanensis Wang et Zheng, 1997, *Acta Zootaxonomica Sinica*, 22(1): 57–59.

观察标本 :9 ♂ 2 ♀, 湖北丹江口武当山, 1990-VII-13; 1 ♀, 湖北神农架林区, 1990-VII-21; 1 ♀, 湖北兴山, 1991-VI-21.

分布 湖北(丹江、神农架、兴山)。

2. 八面山微翅蚱 *Alulatettix bamianshanensis* Fu et Zheng, 1998

Alulatettix bamianshanensis Fu et Zheng, 1998, *Journal of Hunan Agricultural University*, 24(2): 41–45.

观察标本 2 ♀, 湖南桂东(八面山), 1996-VII-25; 5 ♀, 湖南桂东(八面山), 1996-VIII-20; 1 ♀, 湖南资兴, 1996-VIII-11.

分布 湖南(桂东、资兴)。

3. 秦岭微翅蚱, 新种 *Alulatettix qinlingensis* sp. nov. (图 1~3)

雄性 :体小型。头顶突出于复眼之前, 中隆线明显, 伸至后头。前缘圆形, 侧缘适度反折, 在侧缘和中隆线间形成明显沟状, 头顶宽为一复眼宽的 1.5 倍, 后头部具 1 对瘤突, 颜面隆起在侧单眼间略凹陷, 在触角间弧形突出, 颜面隆起与头顶形成近直角, 颜面隆起纵沟与触角基节等宽。复眼球形, 侧单眼位于复眼前缘中部。触角丝状, 着生于复眼的下缘之间, 14 节, 长约为前足股节的 2 倍, 中段一节长为宽的 4

~5 倍。前胸背板屋脊形, 前缘近平直, 中隆线侧面观在前足上方明显呈弓形, 中后部较平, 后突不到达后足股节的顶端, 或略不到达、到达、略超过腹部顶端, 末端顶圆形。沟前区的侧隆线在沟前区的前部分明显, 平行, 在沟前区的后部分不明显, 肩角宽钝角形, 侧片后缘具 2 个凹陷, 侧片后角向下, 末端钝圆形。前翅明显, 后翅缩短, 到达第 3 腹节后缘。前、中足股节下缘呈波状, 中足股节宽为前翅可见部分宽的 2.3 倍; 后足股节粗短, 长为宽的 2.8 倍, 膝前齿及膝齿近直角形; 后足胫节外侧刺 11 个, 内侧刺 8 个; 后足跗节第 1 节长为第 3 节的 1.5 倍, 第 1 跗节下之第 1、2 垫小, 顶尖, 第 3 垫较大, 顶钝。下生殖板短锥形, 末端分叉。

体褐色。前胸背板背面有些个体具 1 对黑斑, 后足胫节暗褐色, 基部和中部具一淡色环。

雌性 :前胸背板后突伸至肛上板前缘或末端。下生殖板宽大于长, 后缘中央三角形突出, 产卵瓣粗短, 上瓣之长为宽的 2.5 倍, 外缘具细齿。余与雄性同。

体长 :♂ 8.0~8.5 mm, ♀ 10.0~11.0 mm; 前胸背板长 :♂ 6.8~7.8 mm, ♀ 7.8~8.8 mm; 后足股节长 :♂ 5.5~6.2 mm, ♀ 6.5~7.0 mm。

正模 :♂, 陕西西安秦岭野生动物园, 500 m, 2005-III-24, 邓维安采; 副模 :1 ♂ 4 ♀, 同正模, 邓维安、韦仕珍采。

本种近似于八面山微翅蚱 *Alulatettix bamianshanensis* Fu et Zheng, 主要区别见表 1。

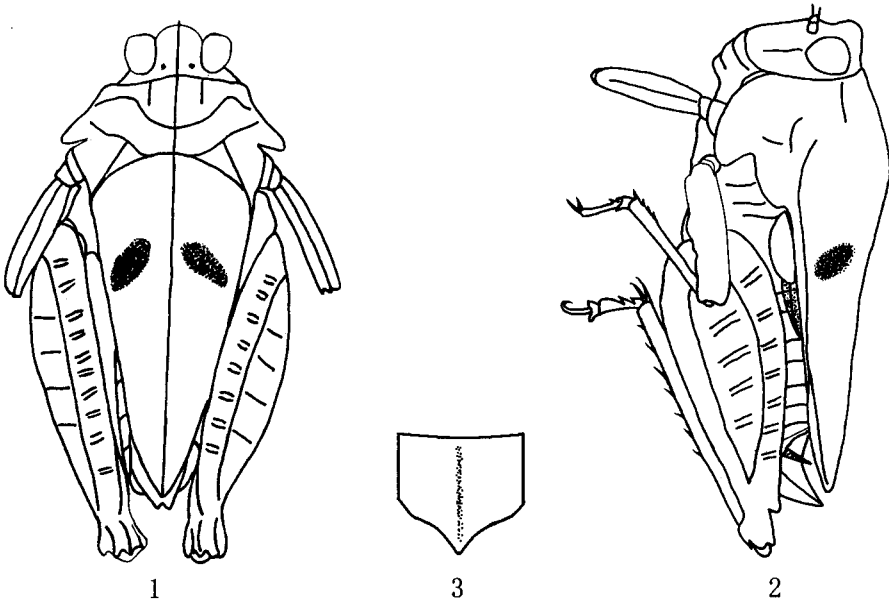


图 1~3 秦岭微翅蚱新种

Figs. 1–3 *Alulatettix qinlingensis* sp. nov.

1. 整体背面(♂, body, dorsal view); 2. 整体侧面(♂, body, lateral view); 3. 雌性下生殖板(♀, subgenital plate)

表 1 秦岭微翅蚱与八面山微翅蚱之主要区别

Table 1 Comparison of *Alulatettix qinlingensis* sp. nov. and *Alulatettix bamianshanensis* Fu et Zheng

秦岭微翅蚱 <i>Alulatettix qinlingensis</i> sp. nov.	八面山微翅蚱 <i>Alulatettix bamianshanensis</i> Fu et Zheng
头顶为一眼宽的 1.5 倍 The width of vertex about 1.5 times larger than one compound eye	头顶为一眼宽的 2 倍 The width of vertex about 2 times larger than one compound eye
后翅到达第 3 腹节后缘 Hind wing reaching the posterior margin of the third segment of abdomen	后翅到达第 1 腹节后缘 Hind wing reaching the posterior margin of the first segment of abdomen
后足跗节第 1 节长为第 3 节的 1.5 倍 First article of the posterior tarsi about 1.5 times longer than the third	后足跗节第 1 节长为第 3 节的 2 倍 First article of the posterior tarsi about 2 times longer than the third
第 1 跗节下之 3 垫不等长 Pulvillus of the first segment of posterior tarsi are not equal	第 1 跗节下之 3 垫近等长 Pulvilli of the first segment of posterior tarsi are equal

4. 断隆微翅蚱,新种 *Alulatettix interrupta* sp. nov.(图 4~6)

雌性:体小型,具颗粒。头顶略突出于复眼之前,中隆线明显,伸至后头,前缘圆形,侧缘适度反折,在侧缘和中隆线间形成明显沟状,头顶宽为一复眼宽的 1.1 倍,颜面隆起在侧单眼间不凹陷,在触角间稍隆起,颜面隆起与头顶形成近直角,颜面隆起纵沟狭于触角基节宽。复眼球形突出,侧单眼位于复眼前缘中部。触角丝状,着生于复眼的下缘之间,14 节,长约为前足股节的 2 倍,中段一节长为宽的 4~5 倍。前胸背板密具大小不等的瘤突,前缘平直,中隆线不完整,断裂,在肩部之间具 1 对短纵隆线;侧

面观背板上缘波状,后突不到达后足股节的顶端,到达腹部顶端,末端顶圆形。沟前区的侧隆线在沟前区的前部分明显,平行,在沟前区的后部分不明显;肩角钝圆形,侧片后缘具 2 个凹陷,上凹极浅,侧片后角向下,末端钝圆形。前翅很小,退化,后翅缩短,到达第 5 腹节后缘。前、中足股节上、下缘平直,中足股节宽为前翅能见部分宽的 1.7 倍;后足股节粗短,长为宽的 3.5 倍,膝前齿及膝齿近直角;后足胫节外侧刺 8 个,内侧刺 6 个;后足跗节第 1 节长为第 3 节的 1.4 倍,第 1 跗节下之第 1、2 垫小,顶尖,第 3 垫较大,顶钝。下生殖板长大于宽,后缘近平直,中央微突出,产卵瓣细长,上瓣之长为宽的 3.4 倍,外缘具细齿。

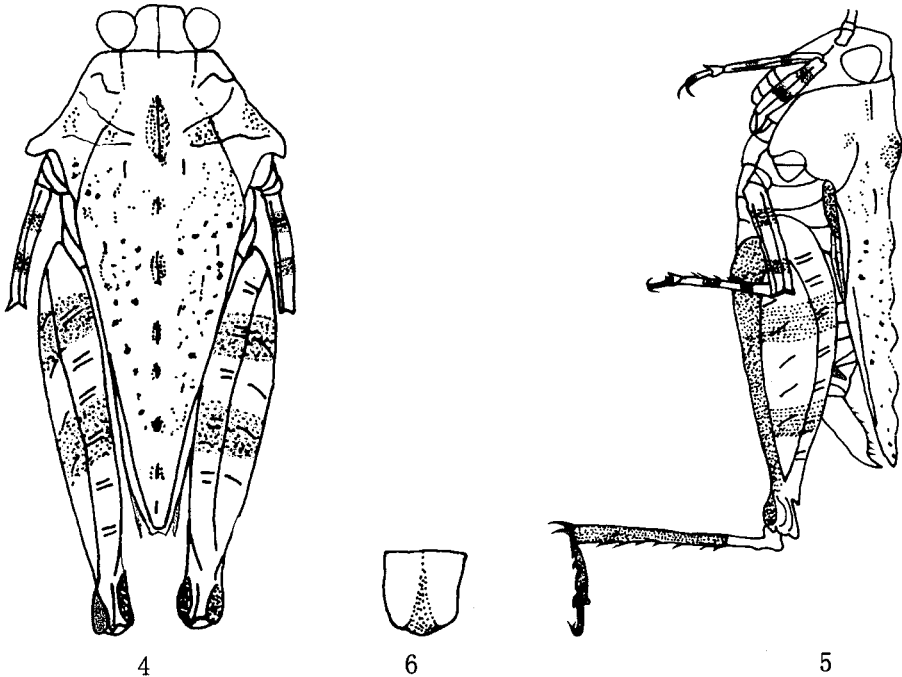


图 4~6 断隆微翅蚱新种

Figs. 4-6 *Alulatettix interrupta* sp. nov.

4. 整体背面(♀, body, dorsal view); 5. 整体侧面(♀, body, lateral view); 6. 雌性下生殖板(♀, subgenital plate)

体黄褐色。前、中足股节及胫节上各具 2 个暗色横斑,第 2 附节端部黑色。后足股节上侧、外侧黄褐色,具 2 黑色斑,下侧外面黑色,后足胫节黑色,近基部具淡色环。后足附节均黑色。

雄性 未知。
体长 :♀ 8.5 mm ;前胸背板长 :♀ 7.5 mm ;后足股节长 :♀ 6.0 mm。

正模 :♀ ,广西北海铁山港 ,30 m ,2005-II -08 ,邓维安采。

该新种近似于武当山微翅蚱 *Alulatettix wudangshanensis* Wang et Zheng 和八面山微翅蚱 *Alulatettix bamianshanensis* Fu et Zheng ,主要的区别见表 2。

表 2 断隆微翅蚱与武当山微翅蚱及八面山微翅蚱的主要区别
Table 2 Differences of *Alulatettix interrupta* sp. nov. with *A. wudangshanensis* Wang et Zheng and *A. bamianshanensis* Fu et Zhang

武当山微翅蚱 <i>Alulatettix wudangshanensis</i> Wang et Zheng	断隆微翅蚱 <i>Alulatettix interrupta</i> sp. nov.	八面山微翅蚱 <i>Alulatettix bamianshanensis</i> Fu et Zheng
背板背面平滑 Dorsum of pronotum smooth	背板背面密具大小不等瘤突 With numerous large and fine tubercles on the pronotum	背板背面平滑 Dorsum of pronotum smooth
背板中隆线完整 Median carina of pronotum complete	背板中隆线断裂 Median carina of pronotum interrupted	背板中隆线完整 Median carina of pronotum complete
背板侧观上缘中部凹陷,两端弧形突出 In profile, anterior part of upper margin of pronotum arched, middle part concave, posterior part arched	背板侧观上缘波状 In profile, upper margin of pronotum wave-like	背板侧观上缘前段弓形,后段平直 In profile, anterior half of upper margin of pronotum arched, posterior half flat
肩部不具 1 对短纵隆线 Without a pair of abbreviated carinae between shoulders	肩部具 1 对短纵隆线 With a pair of abbreviated carinae between shoulders	肩部不具 1 对短纵隆线 (without a pair of abbreviated carinae between shoulders

5. 广西微翅蚱 *Alulatettix guangxiensis* Zheng et Jiang, 1996

Alulatettix guangxiensis Zheng et Zhou, 1996, *Journal of Guangxi Normal University*, 14(1): 87–89; Jiang & Zheng, 1998, Grasshoppers and Locusts from Guangxi. 342, figs. 994–996.
观察标本 :1 ♂ 1 ♀ ,广西兴安 ,1994-VI -24.
分布 :广西(兴安)。

6. 安徽微翅蚱 *Alulatettix anhuiensis* Zheng, 2001

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Appendix : Brief Description of New Taxa

Alulatettix qinlingensis , sp. nov. (Figs. 1 – 3)

The new species is related to *Alulatettix bamianshanensis* Fu et Zheng , but differs in : 1) the width of vertex about 1.5 times that of one compound eye ; 2) hind wing reaching the posterior margin of the third segment of abdomen ; 3) first article of the posterior tarsi about 1.5 times as long as the third ; 4) pulvilli of the first segment of posterior tarsi are not equal.

Length of body : ♂ 8.0 – 8.5 mm , ♀ 10.0 – 11.0 mm ; length of pronotum : ♂ 6.8 – 7.8 mm , ♀ 7.8 – 8.8 mm ; length of hind femur : ♂ 5.5 – 6.2 mm , ♀ 6.5 – 7.0 mm.

Holotype ♂ , Shaanxi : Xi 'an Qinling Zoological Park , 108.9°E , 34.2°N , 500 m , 24-III -2005 , collected by DENG Wei-An ; paratypes 1 ♂ 4 ♀ , same as holotype , collected by DENG Wei-An and WEI Shi-Zhen.

Alulatettix interrupta sp. nov. (Figs. 4 – 6)

The new species is related to *Alulatettix wudangshanensis* Wang et Zheng and *Alulatettix bamianshanensis* Fu et Zheng , but differs in : 1) with numerous large and fine tubercles on the pronotum ; 2) median keel interrupted ; 3) in profile , upper margin of pronotum wave-like ; 4) with a pair of abbreviated carinae between shoulders.

Length of body : ♀ 8.5 mm ; length of pronotum : ♀ 7.5 mm ; length of hind femur : ♀ 6.3 mm.

Holotype ♀ , Guangxi : Beihai , 109.5°E , 21.5°N , 30 m , 8-II -2005 , collected by DENG Wei-An.

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